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SHIPS USED FOR USSR CONSUMER GOODS SHIPMENT;
PRODUCTIVITY AND COST PLAN

SHIPS FOR THE TRANSPORT OF CONSUMER GOODS -- Moscow, Morskoy i Rechnoy Flot,
No 1, Jan 54

At present, a wide variety of ships are being used for the transport of consumer goods -- refrigerator ships, heavy-capacity freight ships and barges, cargo-passenger ships, etc. However, since many of these types are unable to operate in shallow water, new types are needed.

Almost all of these new types of ships must be of shallow draft to enable them to serve points lying out of the fairway and without docking facilities. To assure this shallow draft, the dead-weight tonnage must be kept low, and in some cases the dimensions of the hull must be changed by increasing the beam in relation to the length.

It is important that an effort be made to deliver goods to the customer on schedule. The speed of shipment must be increased; the best way to do this is to ship the freight in self-propelled vessels which are 1 1/2-2 times faster than towed freight vessels. Self-propelled vessels are more maneuverable and easier to organize on an hourly schedule.

After research by the former TsNIIRF (All-Union Central Scientific Research Institute of the River Fleet) and TsPKB (Central Planning and Design Bureau) of the old Ministry of the River Fleet, the following speeds for self-propelled freight vessels were recommended:

<u>Dead-Weight Tonnage</u>	<u>Speed in Calm, Deep Water (km/hr)</u>
2000	17-18
1000	18-19
500	15-16
200	14-15

The indicated speeds can be achieved by increasing the power of the main engines as well as improving the efficiency of the propulsion system.

Much depends on the right choice of engine type and power. Recently there has been wide acceptance of the high-speed, light, and inexpensive internal combustion engine of the 3D6 type for use in low and intermediate power installations (up to 600 horsepower). A great deal of interest is also being shown in the tractor engine of the KDM-46 type. Engines of this type could be repaired during the winter in shops of the MTS, thus simplifying and lightening the task of the ship repair yards.

These ships should be equipped in such a way that the engines are remote controlled, thus permitting the functions of the navigator and the engineer-motorist to be combined. For several years, many steamship lines have been combining the functions of various crew members on self-propelled vessels of 500-600 horsepower.

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This reduction in the number of crewmen on a vessel means that crew's quarters and the size of the hull can be decreased thus making the vessel adaptable to shallow water.

This measure is especially important for smaller ships. At present, a 150-horsepower ship with a dead-weight tonnage of 100 tons requires a crew of nine. If the duties of the engineer and the navigator are combined, the crew can be cut to six, and on short runs when working the men in two shifts, the crew can be cut to four. On ships with a large dead-weight tonnage (500 tons and up), the crew's work should be divided into three shifts.

For most self-propelled freight vessels, screw propulsion is recommended, but for small, shallow-draft freight ships, water jet propulsion is preferable.

For the transport of agricultural products, the tug fleet must be increased. Tugs and their tows must be able to operate in shallow areas, though it is difficult to develop a shallow-draft tug with good hydromechanical characteristics.

Towing speed can be increased by the use of the barge-pushing method. In quiet water, barge pushing increases the speed of a tow by 10 percent over conventional towing methods.

The following table gives vessel types recommended for use in transporting consumer goods. The table includes both river and maritime craft.

Ship Type	Hp	Dead-weight Tonnage	Hull Dimensions (meters)			Draft (meters)	Speed (km/hr)	Type of Propulsion
			Length	Beam	Freeboard Height			
Self-propelled freight:								
Maritime*	300	150	33	6.5	3.0	1.8-1.9	15-16	Screw
Maritime	150	80	22	5.1	2.3	1.7-2.0	14-15	Screw
River	300	500-700	62	9.2	2.4	1.6-2.0	15-16	2 screws
River	150	100	35	8.0	1.7	1.0-1.1	11-12	Water jet
River*	50	60	28	5.5	1.2	0.6-0.7	10-11	Water jet
Refrigerated:								
River	600 (300)	150	52	8.0	3.2	1.3-1.4	19-16	2 screws
Tugs:								
Maritime (roadstead)*	150		14	3.8	1.9	1.60		Screw
River*	150		16	3.6	1.3	.71		Screw
Non-self-propelled:								
Maritime*		250	41	7.4	3.6	2.10		
River		200	38	7.0	1.4	1.10		
River*		100	31	6.4	1.3	0.80		
River*		50	22	5.0	1.5	0.70		

* Under construction

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During the first 11 months of 1953, the gross-production plan for the industrial enterprises of the Ministry of Maritime and River Fleet was fulfilled by 7.6 percent more than for the same period in 1952. The ship repair facilities fulfilled the program by 3.5 percent more than during the same period last year.

During the first 9 months of 1953, the cost of production in manufacturing enterprises of the Ministry of Maritime and River Fleet was 2.2 percent below the planned cost, although many main administrations failed to fulfill this plan. In Glavsudoverf'lesprom (Main Administration of Shipyard Timber Management), for example, the cost was 3 percent over that planned, in Glavvostokflot (Main Administration of the Eastern Basins River Fleet), it was 2.7 percent over that planned, and in Glavvodput' (Main Administration of Inland Waterways), it was 1.3 percent over that planned.

For Glavmorrechprom (Main Administration of Maritime and River Shipbuilding) as a whole, there was some lowering in the cost of production, but many industries of this main administration permitted excessive expenditures of materials and money during 1953. The following enterprises were among those that exceeded the planned cost: Yard Imeni Butyakov (director, Volkov) by 9.8 percent, Shipyard Imeni Volodarskiy (director, Ourtsov) by 12.2 percent, Odessa Yard (Director, Tsybuzgin) by 1.9 percent, and others.

The importance of increasing the productivity of labor is amply indicated by the fact that 70 percent of the increase in industrial production from 1940-1951 was attained through an increase in the productivity of labor.

Many industrial enterprises are not fulfilling labor productivity plans at present. In the first 11 months of 1953, almost half of the industries of Glavmorrechprom failed to fulfill the labor productivity plan; the industries of Glavyuzhflot (Main Administration of the Southern Fleet) fulfilled the plan only 97.8 percent; Glavvostokflot, by only 93.7 percent; Glavtsentrolot (Main Administration of the Central Basins Fleet), by 92.9 percent; and Glavsevzapflot (Main Administration of the Northwestern Fleet), by 97.8 percent.

In many ship repair yards, labor productivity was held back because there was not a full understanding of the need to coordinate machine work and heavy processing with over-all plant operation.

Thus in the Vologodskiy Ship Repair Plant (director, Mutovkin) during 1953, the metal cutting machines were in use only 79 percent of the operating time, wood working machines, only 8 percent, hull and boiler machinery, 65.5 percent, and welding equipment, 63 percent. But milling machines have been standing idle in this yard since 1945 while nuts were cut by hand.

The utilization of equipment is no better in the Bobrovskiy and Novosibirsk ship repair yards of the West Siberian Steamship Line. In the Novosibirsk Yard, they prefer to use manual labor rather than existing electric planers, drills, and slotters. Automatic and semiautomatic welding apparatus has lain unused for 2 years in the yards of the West Siberian Steamship Line.

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